



## FAME II

### Why in news?

- Electric and hybrid vehicle (xEVs) manufacturers will have to indigenise a significant portion of components to avail benefits under a revised set of rules of the phase 2 of the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles, or [FAME 2](#) scheme.
- In a first, detailed localization draft guidelines have been issued by the Department of Heavy Industry (DHI) putting out a list of key components for xEV manufacturers to localise with respective deadlines to avail the scheme across all approved vehicle categories.

### Background

- Government of India notified FAME India Scheme [Faster Adoption and Manufacturing of (Hybrid & Electric Vehicles in India)] for implementation with effect from 1st April 2015, with the **objective to support hybrid/electric vehicles market development and Manufacturing eco-system.**

### All about FAME

#### Objective

**The FAME India Scheme is aimed at incentivising all vehicle segments i.e. 2 Wheeler, 3 Wheeler Auto, Passenger 4 Wheeler Vehicle, Light Commercial Vehicles and Buses. The scheme covers Hybrid & Electric technologies like Mild Hybrid, Strong Hybrid, Plug in Hybrid & Battery Electric Vehicles.**

- **Monitoring Authority : Department of Heavy Industries**
- Fame India Scheme has four focus Areas.
  - Technology development
  - Demand Creation
  - Pilot Projects
  - Charging Infrastructure
- **Target:** National Electric Mobility Mission Plan (NEMMP) has set a huge target to deploy 48 lakh 2W EVs and 15 lakh 4W EVs by 2020

### Analysis of focus areas

- **Technology development: There are two types of technology related with FAME : Battery Electric Vehicles (BEVs) and Hybrid Electric Vehicles (HEVs)**

### Battery Electric Vehicles (BEVs)

- India has a scarcity of lithium and will have to rely on expensive imports to sustain a growing BEV industry as the lithium is the best battery technology and delivers high energy and high power.
- Current battery technology is not mature enough to allow BEVs to compete with fossil fuel-based vehicles. As the energy efficiency capacity of BEVs is 100 times less than petrol and diesel vehicle, it provides low range per charge.

- Another technical deficiency of BEVs is that their speed and acceleration is lower than conventional fuel-based vehicles because of the low power capacity of batteries.

## Hybrid Electric Vehicles (HEVs)

An HEV has a conventional internal combustion engine propulsion system plus an electric propulsion system consisting of a battery and a motor. This makes HEVs heavy and expensive. Therefore as per the current technology it can only be used in light commercial vehicle.

## Steps Under FAME for technological development

- Under the FAME-India scheme, a nodal body, the DHI-DST Inter-Ministerial Technology Advisory Group (IM-TAG) on Electric Mobility has been set up.
- A few long-term projects are already underway under the auto-cess funded R&D programme.
- A collaborative approach between the industry and academia is envisaged, which would include government-funded as well as PPP projects.

## Demand Creation

- Incentive, in the form of discount, are provided under FAME. The discount amount is about one-third of the difference between the price of an EV and a comparable petrol vehicle.

## Pilot Projects

- The phase 1 of FAME PROVIDED incentive to private vehicles.
- The phase 2 of FAME will provide incentive for public transport in 10 cities. The outlay of ₹10,000 crore has been made for three years till 2022 for FAME 2 scheme. The centre has sanctioned ₹8,596 crore for incentives, of which ₹1,000 crore has been earmarked for setting up charging stations for electric vehicles in India. The government will offer incentives for electric buses, three-wheelers and four-wheelers to be used for commercial purposes. Plug-in hybrid vehicles and those with a sizeable lithium-ion battery and electric motor will also be included in the scheme and fiscal support offered depending on the size of the battery.

## Steps taken by Government

- The government has to set up additional power generation infrastructure in order to make EVs more attractive.
- Upcoming smart grids in India can play a significant role in improving the charging infrastructure. Smart grids can help in optimising electricity needs at peaking demand hours for utility purpose and for BEV charging. For example **Bosch** has set up one such infrastructure in Germany with Mobile connectivity to provide information.